

WHAT IS CLAIMED IS

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1. A base station apparatus for a radio communication system which divides one cell into a plurality of sectors and communicates with a plurality of terminal stations according to TDMA via antennas which are provided for each of the sectors, said base station apparatus comprising:

a frequency-based distributor and modulator unit which distributes each of channel data to be transmitted in correspondence with each of time slots of a plurality of transmission frequency-based channels, and modulates the distributed channel data to modulated signals;

a sector-based distributor and multiplexer unit which distributes the modulated signals to sector-based channels which are prescribed in advance in correspondence with the time slots, and multiplexes the distributed modulated signals for each of the sector-based channels; and

a channel connection controller which generates distribution control information of each of the transmission frequency-based channels and the sector-based channels depending on a channel connect or disconnect request.

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2. The base station apparatus as claimed in claim 1, which further comprises:

a sector multiplexer and distributor unit which multiplexes each of received signals of the sector-based channels, and distributes the multiplexed

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received signals to a plurality of reception frequency-based channels; and

5 a frequency-based demodulator unit which extracts frequency signals corresponding to the reception frequency-based channels from each of the distributed signals from said sector multiplexer and distributor unit, and demodulates the frequency signals in correspondence with the time slots.

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3. The base station apparatus as claimed in claim 1, wherein said channel connection
15 controller generates the distribution control information in response to a new channel connect request so as to connect a vacant slot of the transmission frequency-based channels to a sector in which a terminal making the new channel connect
20 request exists.

25 4. The base station apparatus as claimed in claim 1, which further comprises:

a failure information collector which collects failure information of equipments within said base station apparatus,

30 said channel connection controller using a time slot which is unaffected by a failed equipment, of time slots of the transmission frequency-based channels, based on the failure information collected by said failure information collector.

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5. The base station apparatus as claimed in claim 1, which further comprises:

a power supply controller which controls ON/OFF state of a power supply to equipments within the base station apparatus based on an instruction from
5 said channel connection controller,

said channel connection controller outputting an instruction which turns OFF the power supply to a non-used equipment in the transmission frequency-
10 based channel.

15 6. The base station apparatus as claimed in claim 2, which further comprises:

a power supply controller which controls ON/OFF state of a power supply to equipments within the base station apparatus based on an instruction from
20 said channel connection controller,

said channel connection controller outputting an instruction which turns OFF the power supply to a non-used equipment in the reception frequency-based
25 channel.

7. The base station apparatus as claimed in claim 1, wherein said channel connection controller uses the time slots in a sequence starting from the time slots of one of the transmission frequency-based channels, so that the time slots are fully utilized.

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